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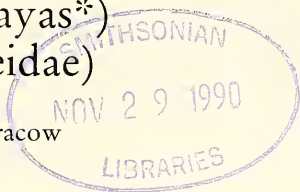
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Revision of the Aphodiinae of the Western Himalayas* (Coleoptera: Scarabaeidae)

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With 50 figures and 2 tables



Summary

The present paper deals with a collection of Aphodiinae from the Western Himalayas. 43 species (Table 1) are treated concerning synonymy, complementary descriptions, distribution, comments, keys for identification and illustrations of morphological details. Out of the now 51 species recorded in the Western Himalayas, 6 species are indicated in this region for the first time and three species are described as new to science: *Aphodius (Paremadus) schawalleri* n. sp., *A. (P.) mudukensis* n. sp., *A. (P.) ivani* n. sp. A brief discussion of the distribution patterns among Himalayan Aphodiinae is included.

Zusammenfassung

Die vorliegende Arbeit befaßt sich mit Aphodiinae aus dem Westhimalaya. 43 Arten (siehe Tabelle 1) werden behandelt hinsichtlich Synonymie, ergänzender Beschreibungen, Verbreitung, einiger Bemerkungen, Bestimmungsschlüssel und Abbildungen morphologischer Details. Von den jetzt 51 insgesamt für den Westhimalaya registrierten Arten werden 6 erstmalig für diese Region gemeldet und 3 neu beschrieben: *Aphodius (Paremadus) schawalleri* n. sp., *A. (P.) mudukensis* n. sp., *A. (P.) ivani* n. sp. Eine kurze Diskussion der Verbreitungsbilder der Aphodiinae im Himalaya wird vorausgestellt.

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1. Introduction

The present paper augments earlier work on the Aphodiinae of the Nepal-Himalayas (STEBNICKA 1986). The opportunity is taken to provide summaries of data relating to the Aphodiinae found in the Western Himalayas in a form that may be useful in the future for discussions of the general composition of the Himalayan fauna. All available material of Aphodiinae from the Western Himalayas has been studied, amounting to some 600 specimens of 51 species.

Abbreviations employed below for the depositories of material and of relevant type-specimens are listed here:

- ISEZ*: Institute of Systematic and Experimental Zoology, Polish Academy of Sciences (Cracow);
MHK: Museum Hradec Králové (Hradec Králové, Czec.);
MHNG: Muséum d'Histoire Naturelle (Genève);
NMP: National Museum (Prague), Department of Entomology (BALTHASAR's collection);
SMNS: Staatliches Museum für Naturkunde (Stuttgart);
UZI: Universitetets Zoologiska Institution (Lund);
ZSM: Zoologische Staatssammlung (München).

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2. Horizontal distribution in the Himalayan system

The Western Himalayas extend from the Indus valley in the west to the Kali Gandaki river in the east and include the Punjab Himalaya, the Kumaon Himalaya and the Western Nepal Himalaya (map see fig. 1).

The Punjab Himalaya is the division west of the defile of the Sutley river, approximately 600 km long, extending through Mt Nanga Parbat, west of which the Indus river curves southwestward. According to the present state of knowledge of distribution of Aphodiinae-species, the area of Swat (North-West Frontier Province of Pakistan) should be considered as transitional zone of Himalayan and Afghanian (Central Asiatic) faunas. Therefore, the fauna of the Swat territory located between the rivers Swat and Indus is also discussed here. The Punjab Himalaya is separated from the Karakorum in the north by the upper Indus.

The mountains of Karakorum are excluded from the area in question, because they are on biogeographical grounds more logically treated as part of Hindukush. The Karakorum and the Hindukush constitute the Transhimalayan range, that stretches from the southeast to the northwest, curves round Hunza and Gilgit, passing north of Chitral and entering Afghanistan from the northeast to the southwest. The aphodiid fauna of this area consists for the most part of typical Central Asiatic elements and it seems to be closely related to the neighbouring faunas of Turkmenia and Iran.

The Kumaon Himalaya constitutes the central subdivision of the Western Himalayas extending for above 300 km between the Sutley river and the Sarda river on the

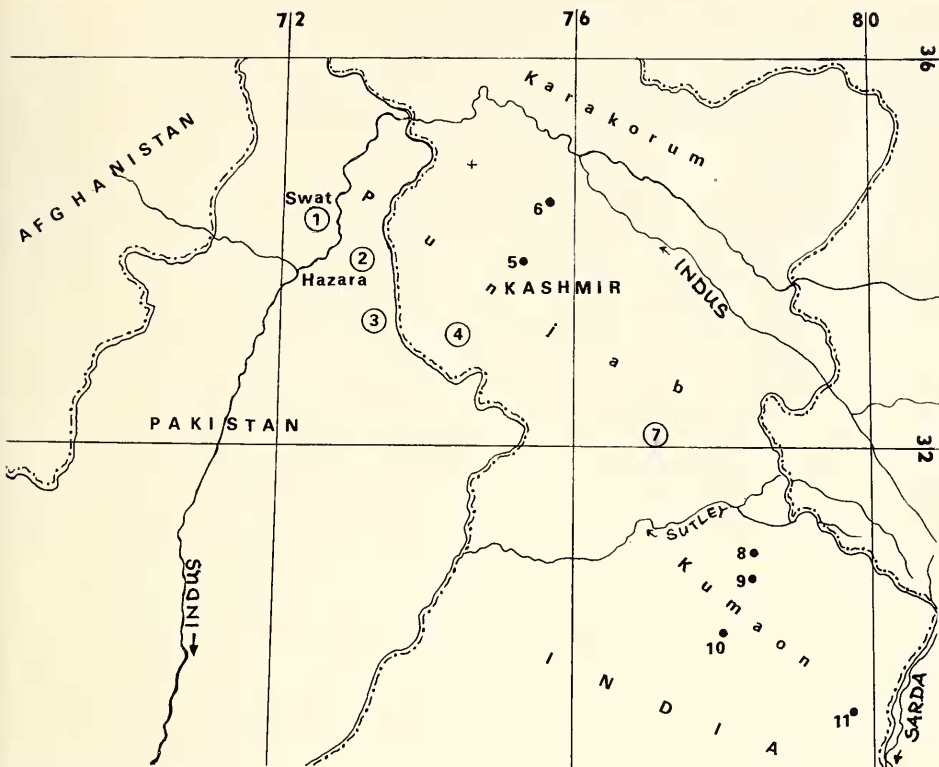


Fig. 1. Collecting localities in the Western Himalayas (including the localities taken from cited literature; numbers with circle: larger regions). — 1. Swat: Col de Karak, Kalam, Utrot, valley Ushu, Cabral, Dir Lawarai Pass; — 2. Hazara: Kaghan valley, Naran, Nathia Gali, Makhair, Shogran, Sharkul, Malkandi, Saiful Muduk Lake, Murree; — 3. Rawalpindi: Rawalpindi Lake, Sind-Gund, Dhok Pathan, Pindi Gheb; — 4. Pir Panjal: Tangmarg; — 5. Pahalgam; — 6. Zojila; — 7. Manali, Mahri; — 8. Rangarth; — 9. Katrain; — 10. Dehra Dun; — 11. Naini Tal (Bhim Tal).

India-Nepal border. It encloses Simla, Almora, Naini Tal, Mussorie, Dehra Dun and Landsdowne — Indian hill stations.

The eastern subdivision of the Western Himalayas contains a small area of the Western Nepal located between Sarda and Kali Gandaki rivers.

An approximate picture of the differentiation of the local faunas in the Himalayan system has been given by STEBNICKA (1986). Much of the data discussed in the former and in the present report is summarized in Table 1, which also gives the known distribution, by biogeographical units, for each species within the Western Himalayas and within the Central Nepal Himalayas. The aphodiid fauna of the Western Himalayas was known to include a total of 43 species indicated in STEBNICKA (1986). Although the present report increases this number to 51 species — representing about 30,0% of the total Himalayan fauna — the general idea of the differentiation of the local Himalayan faunas remains unchanged. Table 2 is illustrative of this point with regard to Aphodiinae. The increase in the number of recorded species is mainly due to new records at low altitudes, oriental species representing about

Table 1. Distributional data for Aphodiinae ascertained in the Western and Central Himalayas. Where earlier publications give records under names which have subsequently fallen into synonymy the records are included in this list under the valid name. The 43 species discussed in the present report are marked with an asterisk.

Species	Western Himalaya		Nepal		Eastern Himal.	Palearctica		Oriental Reg.	
	Punjab	Kumaon	West	Central		Asia	Europe		
<i>Aphodius (Teuchestes) analis</i> (Fabr.)			x				x	x	
<i>Aphodius (Pleuraphodius) lewisi</i> Waterh.				x			x	x	
<i>Aphodius (Carinaulus) dierli</i> Balth.				x					
* <i>Aphodius (Loboparius) immarginatus</i> A. Schm.		x	x	x	x			x	
* <i>Aphodius (Loboparius) scheibei</i> Balth.	x		x	x	x		x		
* <i>Aphodius (Loboparius) schereri</i> Petr.	x		x				x		
<i>Aphodius (Loboparius) dunchensis</i> Stebn.				x					
* <i>Aphodius (Loboparius) mirificus</i> Balth.		x			x			x	
* <i>Aphodius (Loboparius) hazarae</i> Stebn.	x				x			x	
<i>Aphodius (Pharaphodius) marginellus</i> (Fabr.)				x	x			x	
<i>Aphodius (Pharaphodius) priscus</i> Motsch.				x	x			x	
<i>Aphodius (Pharaphodius) redargutus</i> Balth.				x	x			x	
<i>Aphodius (Pharaphodius) orientalis</i> Har.				x	x			x	
<i>Aphodius (Pharaphodius) costatulus</i> A. Schm.				x	x			x	
<i>Aphodius (Pharaphodius) calo</i> Balth.				x	x			x	
<i>Aphodius (Pharaphodius) crenatus</i> Har.				x	x			x	
* <i>Aphodius (Pharaphodius) robustus</i> Walk.	x		x	x	x		x	x	
* <i>Aphodius (Pharaphodius) cornutus</i> Wied.		x		x	x			x	
* <i>Aphodius (Pharaphodius) pereirai</i> Balth.	x								
<i>Aphodius (Pseudacroscus) kuskai</i> Stebn.									
<i>Aphodius (Agrilinus) monicae</i> Stebn.									
<i>Aphodius (Agrilinus) montisamator</i> Balth.									
* <i>Aphodius (Agrilinus) rufoanalis</i> Petr.	x								
* <i>Aphodius (Loraphodius) kashmirensis</i> Sharp	x	x					x	x	

Species	Western Himalaya		Nepal		Eastern Himal.	Palaeartica		Oriental Reg.
	Punjab	Kumaon	West	Central		Asia	Europe	
					<i>Apbodus (Balthasarianus) gregori</i> Balth.			
<i>Apbodus (Balthasarianus) frubstorferi</i> Petr.				x	x			x
* <i>Apbodus (Balthasarianus) nainiensis</i> Petr.		x						
* <i>Apbodus (Aganocrossus) urostigma</i> Har.	x			x	x		x	x
* <i>Apbodus (Aganocrossus) amoenus</i> Boh.				x				
* <i>Apbodus (Calaphodius) moestus</i> Fabr.	x				x			x
* <i>Apbodus (Emadiellus) rufopustulatus</i> Wied.								
<i>Apbodus (Plagiogonus) palea</i> Balth.				x				
<i>Apbodus (Plagiogonus) martensi</i> Stebn.				x				
* <i>Apbodus (Plagiogonus) ramamiensis</i> Stebn.	x			x				
* <i>Apbodus (Plagiogonus) farai</i> Balth.	x						x	
* <i>Apbodus (Agolus) baroldi</i> D. Kosh.	x						x	
* <i>Apbodus (Cimacanthus) gregarius</i> Har.	x						x	
* <i>Apbodus (Cimacanthus) insperatus</i> Petr.							x	
* <i>Apbodus (Bodilus) lieserfeldti</i> Petr.	x							
* <i>Apbodus (Bodilus) furens</i> A. Schm.	x							
* <i>Apbodus (Bodilus) veselyi</i> Tes.	x							
<i>Apbodus (Alocodermus) teyrovskeyi</i> Balth.	x							
<i>Apbodus (Alocodermus) holdereri</i> Reit.	x							
<i>Apbodus (Nialus) lividus</i> (Ol.)	x							
* <i>Apbodus (Nialus) boabimbensis</i> Balth.	x							
<i>Apbodus (Nialus) jhavanicus</i> Balth.								
* <i>Apbodus (Esymus) indulgens</i> Balth.								
<i>Apbodus (Paremadus) phulcokiensis</i> Stebn.								
<i>Apbodus (Paremadus) annapurnae</i> Stebn.								
<i>Apbodus (Paremadus) yaralensis</i> Stebn.								
<i>Apbodus (Paremadus) bagmatiensis</i> (Stebn.)	x							

Species	Western Himalaya		Nepal		Eastern Himal.	Palearctica		Oriental Reg.
	Punjab	Kumaon	West	Central		Asia	Europe	
					<i>Aphodius (Paremadus) langtangicus</i> (Stebn.)			
<i>Aphodius (Paremadus) yangricus</i> (Stebn.)				x				
* <i>Aphodius (Paremadus) zojilae</i> (Stebn.)	x			x				
* <i>Aphodius (Paremadus) mabriensis</i> (Stebn.)	x							
* <i>Aphodius (Paremadus) schawalleri</i> n. sp.	x							
* <i>Aphodius (Paremadus) mudukensis</i> n. sp.	x							
* <i>Aphodius (Paremadus) ivani</i> n. sp.					x			
<i>Oxyomus nubigenus</i> Petr.				x				
<i>Oxyomus arunae</i> Stebn.				x				
<i>Oxyomus militaris</i> A. Schm.				x				x
* <i>Aegialia (Sillarcia) petrocitzi</i> Stebn.	x							
<i>Aegialia (Sillarcia) wittmeri</i> Stebn.				x				
<i>Aegialia (Sillarcia) gosainkundae</i> Stebn.				x			x	
<i>Saprosites japonicus</i> Waterh.				x				
<i>Cnematoplatys numensis</i> Stebn.				x				
<i>Psammodius (Leiopsammodius) gestroi</i> (Cl.)	x							x
<i>Psammodius</i> (s. str.) <i>tesari</i> Rak.								x
<i>Psammodius</i> (s. str.) <i>macnamarae</i> Pitt.						x		
<i>Psammodius</i> (s. str.) <i>nepalensis</i> (Balth.)								x
<i>Rhyssmodes sindicus</i> Pitt.	x							
* <i>Rhyssmodes freudei</i> Balth.	x							
<i>Rhyssmus incisus</i> (Walk.)								x
* <i>Rhyssmus belenae</i> Pitt.	x							
<i>Rhyssmus (Trichiorhyssmus) nepalensis</i> Pitt.				x				
<i>Rhyssmus (Trichiorhyssmus) adhabbaricus</i> Pitt.				x				

Table 2. Number of Aphodiinae-species in local faunas and their share with the Western Himalayas.

Himalayas	total number of the Himalayan species		Himalayan species also distributed in:				Share of the Himalayan species with:					
	Himalayan species		Oriental region		Palcaartic Asia		Western Nepal		Punjab Kumaon		total Western Himalayas	
	No	%	No	%	No	%	No	%	No	%	No	%
Western Himalayas	51	30,0	14	27,5	18	35,3	7	13,7	48	94,1	51	100,0
Eastern Himalayas	36	21,2	17	47,2	3	8,3	7	19,4	10	27,8	10	27,8
Tibet-Transhimalaya	15	8,8	—	—	15	100,0	1	6,7	3	20,0	3	20,0
Central-Nepal Himalaya	68	40,0	26	38,2	13	19,1	8	11,8	21	39,9	23	33,8
	170											

27,5% of the Western Himalayan fauna. There is a small proportion of Indian and vastly distributed Indo-Malayan species extending as far as the Indus river. They penetrate along the river valleys which allow the influx of subtropical species along the southern border. A number of Himalayan species have a fairly wide distribution, but they are less frequent in the Western Himalayas than further east in Central Nepal. The species common to the European Palaearctic are extremely few, however, the species also distributed in Palaearctic Asia are more conspicuous in the Western Himalayas (35,3%) than in Central Nepal (19,1%). The remaining bulk contains the species confined to the Western Himalayas with flightless representatives of the *Paremadus*-group.

The autochthonous, Western Himalayan species belonging to the elements of the Central and East Palaearctic associations are the core of the fauna of the discussed area. With better exploration their number would probably increase, because the adjacent areas of Afghanistan and Central Nepal are more thoroughly explored, so there is little probability that a significant number of West Himalayan species could be found outside this territory. However, the aphodiid fauna of the Western Himalayas may be assumed to be poorly known in relation to the size of the area as well as in relation to the fauna of Nepal. The data gained from the existing literature and the probative material are scarce, thus the influence of altitude on the distribution of species is practically unknown. In absence of accurate hypsometric data, an interpretation of vertical distribution of Aphodiinae in the Western Himalayas is bound to be misleading.

3. List of the species

3.1. *Aphodius*, including keys in most of the subgenera

3.1.1. *Aphodius (Loboparius) mirificus* Balthasar, 1933

1933 *Aphodius (Loboparius) mirificus* Balthasar, Ent. NachrBl., 7: 57.

1983 *Aphodius (Loboparius) mirificus*, – Dellacasa, Ann. Mus. civ. stor. nat. Giacomo Doria, 84: 258, figs. 22–25.

Remarks: The species has been recorded from the Kumaon Himalaya – Katrain (1450 m) by STEBNICKA (1981). It is distributed in China, Indochina, Burma and India.

3.1.2. *Aphodius (Loboparius) hazarae* Stebnicka, 1985

1985 *Aphodius (Loboparius) hazarae* Stebnicka, Revue suisse Zool., 92(2): 361–363, figs. 5–7.

Material: Punjab Him., Pakistan sept., Murrees, 1900 m, 23.–25. IV. 1984, 1 ex. ♂ (MHNG), leg. Vfr.

Remarks: This species is known so far only from Pakistan east of the Indus river, described from Hazara (2300 m) on the base of a male specimen. Female unknown. The remaining species of *Loboparius* recorded from the Western Himalayas and listed in table 1 are included in the key.

Key to the W. Himalayan species of the subgenus *Loboparius* A. Schm.

- 1 Base of pronotum distinctly, often strongly bordered with a row of contiguous punctures along marginal line 2
- Base of pronotum not bordered with a row of more or less close punctures along margin 3
- 2 Clypeus broadly rounded each side of narrow median emargination. Pronotum with impunctate longitudinal midline, surface punctures mixed fine and large, the latter separated by one to two times their diameters, vanishing at middle of the sides. Elytra dark reddish brown *A. (L.) hazarae*
- Clypeus right-angled each side of wide median emargination. Pronotum without impunctate midline, surface punctures mixed fine and large, the latter separated by less than their diameter and distinct at middle of the sides. Elytra reddish brown, usually darkened on the disc, base and apical declivity lighter *A. (L.) scheibei*
- 3 Sides of clypeus weakly emarginate before genae, the punctures of the head coarse, nearly rugose anteriorly. The punctures of pronotum dense, mixed fine and large, separated by their diameters or less *A. (L.) schereri*
- Sides of clypeus strongly emarginate before genae, the punctures of head fine and scattered, not rugose. The punctures of pronotum moderately close, mixed fine and large, separated by more than their diameters 4
- 4 Genae small, right-angled and slightly protrudent, frontal suture with faintly marked median tubercle. Elytral striae feebly impressed, elytral intervals flat *A. (L.) immarginatus*
- Genae large, rounded and distinctly protrudent, frontal suture with three small, cariniform tubercles. Elytral striae strongly impressed, intervals convex *A. (L.) mirificus*.

3.1.3. *Aphodius (Pharaphodius) pereirai* Balthasar, 1955

1955 *Aphodius (Pharaphodius) pereirai* Balthasar, Acta Ent. Mus. nat. Pragae, 30: 415, 416.

1977 *Aphodius (Pharaphodius) pereirai*, – Dellacasa, Ann. Mus. civ. stor. nat. Giacomo Doria, 81: 315–316, figs. 1–5.

Material: Pakistan, Swat, Col de Karakar, 1300 m, 19. V. 1983, leg. BESUCHET & LÖBL. – Rawalpindi Lake, 24.–26. IV. 1984, in bovine excrements, leg. VÍR, 20 ex. (MHNG, SMNS, ISEZ).

Remarks: The species is known from Afghanistan and the Karakorum range and recorded from Pakistan (Gumari). A detailed redescription has been given by DELLACASA (1977).

The remaining species of *Pharaphodius* recorded from the Western Himalayas and listed in table 1 are included in the key.

Key to the W. Himalayan species of the subgenus *Pharaphodius* Reitt.

- 1 Basal margin of pronotum smooth without a regular row of large punctures. First segment of posterior tarsus nearly as long as the next three segments combined *A. (Ph.) pereirai*
- Basal margin of pronotum with a regular row of large punctures. First segment of posterior tarsus significantly shorter than the next three segments combined 2
- 2 Elytral intervals convex, at apex as wide as striae. Length 5–7 mm *A. (Ph.) robustus*
- Elytral intervals flat, at apex two times as wide as striae. Length 8–10 mm *A. (Ph.) cornutus*.

3.1.4. *Aphodius (Agrilinus) rufoanalis* Petrovitz, 1967 (figs. 2–4)

1961 *Aphodius (Agrilinus) rufoanalis* Petrovitz, Sitzungsber. Österr. Akad. Wiss. Mathem. naturw., 170: 112.

Material: Holotype female – Karakorum, Kandbari (MHNG). – India, Kashmir, Tangmarg, Pir Panjal, 2600 m, 21.–25. V. 1976, 1 ex. (SMNS), leg. MARTENS & SCHAWALLER. – Pakistan sept., Hazara, Naran, Kaghan valley, 3100 m, Saiful Muduk Lake, 4.–5. VII. 1985, 7 ex. (MHNG, SMNS), leg. VÍR.

Complementary description: Length 2.9–3.1 mm. Body entirely black, sometimes apex of elytra reddish brown. Apical spurs of middle and hind tibiae slender in both sexes, first segment of posterior tarsus longer than the upper tibial spur and subequal to the next three segments combined. Terminal spur of anterior tibia of male thicker than in female, slightly bent downward. Epipharynx: The bristles of the chaetoparia moderately long and moderately thick, the numerous bristles of the chaetopodium somewhat shorter than those of the chaetoparia and of the same thickness. The remaining setae of the paria and pedium thin, moderately long.

Affinity: *Aphodius rufoanalis* belong to the *A. (Agrilinus) fasciatus*-group of species characterized by the lack of clypeal ridge and frontal tubercles as well as the lack of humeral denticles in the elytra.

Remarks: The species has been described on the base of a single female. The only previous record is that for the holotype.

3.1.5. *Aphodius (Loraphodius) kashmirensis* Sharp, 1878 (figs. 5–7)

1878 *Aphodius kashmirensis* Sharp, in: J. Asiat. Soc. Bengal, 47 (II): 171.

1913 *Aphodius (Loraphodius) kashmirensis*, – A. Schmidt, Arch. Naturg., 79 A (II): 162, et Auct.

Material: India, Kashmir, Pir Panjal, Tangmarg, 2600 m, 21.–25. V. 1976, 7 ex. (SMNS), – India, Kashmir, Sonamarg, 2900–3000 m, 8.–9. VI. 1976, 18 ex. (SMNS), – India, Ladakh, Kargil, 2950 m, 30. V.–7. VI. 1976, 4 ex. (SMNS), leg. MARTENS & SCHAWALLER. – Pakistan, Hazara, Kaghan valley, 2150 m, 2. VI. 1983, – Naran, 2500 m, 31. V. 1983, – S Naran, 2600 m, 1. VI. 1983, – Naran Kaghan, 2300 m, 2. VI. 1983, 24 ex. (MHNG, SMNS), – Makhair, Kaghan valley, 1600 m, 30. VI. 1985, 17 ex. (MHNG), leg. Vít.

Complementary description: Epipharyngeal epitorma well sclerotized with numerous minute bristles; the bristles of the chaetoparia and chaetopodium of the same size, moderately thick and moderately long; the remaining setae of the paria and pedium thin, rather short.

Remarks: A West Himalayan species, known so far from Kashmir-Ladakh and the Karakorum range.

3.1.6. *Aphodius (s. str.) irregularis* Westwood, 1839

1839 *Aphodius irregularis* Westwood, in: Royle, Illustr. Himalaya, 1: 55, t. 9, fig. 8, et Auct.

1969 *Aphodius (Agrilinus) krupkai* Tesař, Acta Mus. Silesiae, Ser. A, 18: 62–63, [n. syn.].

1986 *Aphodius (s. str.) irregularis*, – Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 18.

Material: Holotype of *krupkai* – W. Pakistan, Rawalpindi, 700–1500 m (MHK). – Kumaon Him., Uttar Pradesh, Rangarh, 2000 m, 9. X. 1979, leg. LÖBL. – Pakistan, Murree, 1900 m, 23.–25. IV. 1984, 7 ex. (MHNG), leg. Vít.

Remarks: A Himalayan species known from Eastern Pakistan, Darjeeling, Nepal and Western Pakistan.

3.1.7. *Aphodius (s. str.) fimetarius* (Linnaeus, 1758)

1758 *Scarabaeus fimetarius* Linnaeus, Syst. Nat., I: 348.

1986 *Aphodius (s. str.) fimetarius*, – Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 18.

Material: India, Kashmir, Pahalgam, 2400 m, 14.–20. V. 1976, 6 ex. (SMNS), leg. MARTENS & SCHAWALLER. – Pakistan, Swat, Col de Karakar, 1300 m, 19. V. 1983, leg. BESUCHET

& LÖBL. — Murree, 1900 m, 23.—25. IV. 1984, — Hazara, Nathia Gali, 17.—22. IV. 1984, 15 ex. (MHNG), leg. Vít.

Remarks: Holarctic species, in the Himalayan region recorded from Nepal, Kashmir and Karakorum.

Key to the W. Himalayan species of the subgenus *Aphodius* s. str.

- 1 Elytra yellow or reddish yellow with black fillet situated at middle and with black or brownish spots located at shoulders and before apex *A.* (s. str.) *irregularis*
 — Elytra red or blackish red without black fillets and spots *A.* (s. str.) *fimetarius*.

3.1.8. *Aphodius* (*Koshantschikovius*) *peculator* Balthasar, 1971

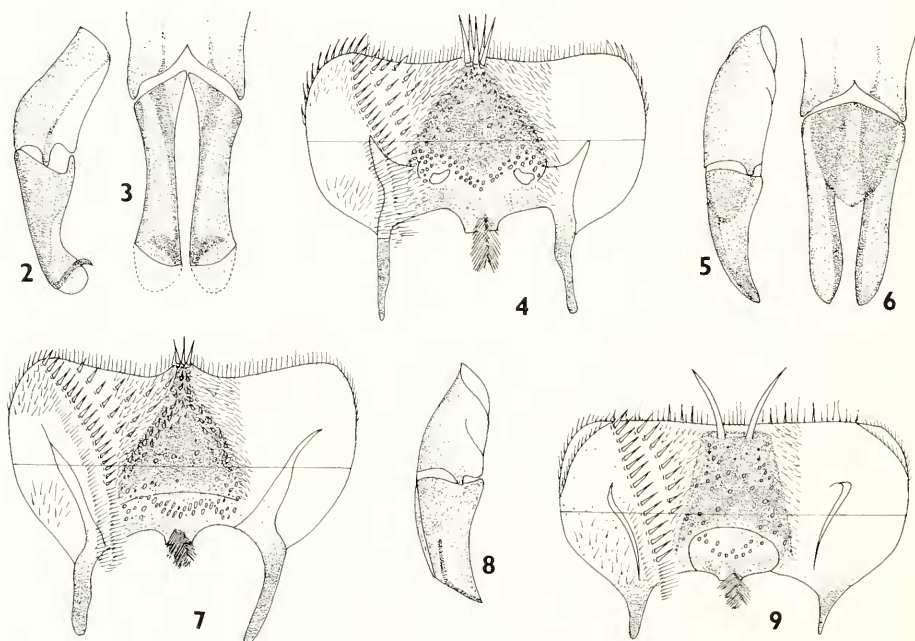
1971 *Aphodius* (*Pseudacrossus*) *peculator* Balthasar, Beitr. Ent., 21: 56–57.

1975 *Aphodius* (*Koshantschikovius*) *bhutanensis* Petrovitz, Entom. Basiliensia, 1: 217–218, [n. syn.].

1986 *Aphodius* (*Pseudacrossus*) *peculator*, — Stebnicka, Stuttgarter Beitr. Naturk., Ser. A. 397: 16. —

1986 *Aphodius* (*Koshantschikovius*) *bhutanensis*, — Stebnicka, Stuttgarter Beitr. Naturk., Ser. A., 397: 19, figs. 25–27.

Material: Holotype of *peculator* — Nepal, vicinity of Patan (NMP). — Holotype of *bhutanensis* — Bhutan, Paro (MHNG). — A series of specimens from Nepal.



Figs. 2–4. *Aphodius* (*Agrilinus*) *rufoanalis* Petr. — 2–3. aedeagus (lateral and dorsal view); — 4. epipharynx.

Figs. 5–7. *Aphodius* (*Loraphodius*) *kashmirensis* Sharp. — 5–6. aedeagus (lateral and dorsal view); — 7. epipharynx.

Figs. 8–9. *Aphodius* (*Paradidactylia*) *wichei* Petr. — 8. aedeagus (lateral view); — 9. epipharynx.

Remarks: The species is known so far only from Nepal and Bhutan, no specimens were found in the Western Himalayas. It is very similar to *A. andreweesi* A. Schm. and it belongs without doubt to the group *Koshantschikovius*.

3.1.9. *Aphodius (Paradidactylia) kathmandui* Stebnicka, 1985

- 1985 *Aphodius (Paradidactylia) kathmandui* Stebnicka, Revue suisse Zool., 92: 360–361, figs. 1–3.
 1986 *Aphodius (Paradidactylia) kathmandui* Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 21.

Material: Pakistan, Swat, Col de Karakar, 1300 m, 19. V. 1983, 4 ex. (MHNG, SMNS), leg. BESUCHET & LÖBL.

Remarks: The species known hitherto from Nepal is here indicated in the Western Himalayas for the first time.

3.1.10. *Aphodius (Paradidactylia) wichei* Petrovitz, 1961 (figs. 8–9)

- 1961 *Aphodius (Paradidactylia) wichei* Petrovitz, Sitzungsber. Österr. Akad. Mathem. naturw., 17 (3–4): 110–111.
 1973 *Aphodius (Trichonotulus) coimbatorensis* Balthasar, Ent. Bl. Biol. Syst. Käfer, 69 (1): 52–53, [n. syn.].

Material: Holotype of *wichei* – Karakorum, Saidu Sharif (MHNG). – Holotype of *coimbatorensis* – India, Coimbatore (NMP). – India, Kumaon Himalaya, Dehra Dun, 17. IX. 1979, at light, 5 ex. (ISEZ), leg. DWORAKOWSKA. – A series of specimens from South India and Ceylon (ZSM, SMNS, UZI).

Complementary description: Length 2.2–3.2 mm, colour dark brown or dark castaneous, upper side of the body minutely pubescent. Posterior angles of pronotum truncate and slightly emarginate before base; base finely margined and distinctly crenate by fine punctures. Humeri finely dentate, elytral intervals moderately shining, finely punctate along striae. Hind tibia faintly widened toward apex, transverse ridges inconspicuous. Epipharyngeal epitorma lightly sclerotized, the bristles of the chaetoparia moderately long and moderately thick, the bristles of the chaetopodium somewhat shorter than those of the chaetoparia, of the same thickness. The remaining setae of the paria and pedium short and thin, scarcely distributed.

Remarks: The species is probably widely distributed on the Indian subcontinent.

3.1.11. *Aphodius (Paradidactylia) biseriatus* A. Schmidt, 1908 (fig. 10)

- 1908 *Aphodius biseriatus* A. Schmidt, Ent. Wochenbl., 25: 46.
 1913 *Aphodius (Trichonotulus) biseriatus* A. Schmidt, Arch. Naturg., 79A (11): 154, et Auct.
 1961 *Aphodius (Paradidactylia) dehradunensis* Petrovitz, Boll. Soc. Ent. Ital., 91 (9–10): 147, [n. syn.].
 1964 *Aphodius (Trichonotulus?) biseriatus*, – Balthasar, Monogr., 3: 318.
 1964 *Aphodius (Trichonotulus?) dehradunensis*, – Balthasar, Monogr., 3: 320.

Material: Holotype female of *dehradunensis* – Kumaon Him., Dehra Dun (MHNG). – A series of females collected in South India and in Ceylon (ZSM, SMNS, ISEZ).

Complementary description: Length 3.5–4.0 mm, colour dark castaneous, upper side of the body shortly piliferous. Posterior angles of pronotum truncate and slightly emarginate before base; base with extremely fine marginal line slightly cre-

nated by fine punctures. Humeri finely dentate, elytral intervals with two rows of punctures bearing short, slightly erect setae. Hind tibia slightly widened toward apex, transverse ridges marked by very fine line. Epipharyngeal epitorma well sclerotized in anterior two thirds, the bristles of the chaetoparia and the chaetopodium the same size, moderately long and moderately thick. The remaining setae of the paria and pedium thin, rather scarcely distributed.

Remarks: *A. biseriatus* A. Schm. has been described for the second time by PETROVITZ on the base of an old and morphologically altered female. The male genitalia are not illustrated in the present report due to the lack of males in the material studied. The species seems to be much more closely related to the representatives of the *Paradidactylia*-group than to the typical members of *Trichonotulus*; the transverse ridges of middle and hind tibiae are marked by very fine lines as well as the shape of the labrum is that of the other species of *Paradidactylia*. However, no ultimate statement can be given about a classification and distribution of this group of species before clarifying the phyletic relationships among Oriental and Ethiopian forms.

Key to the W. Himalayan species of the subgenus *Paradidactylia* Balzh.

- 1 Upper side of the body nude. The punctures of pronotum irregularly spaced, separated by one to three their diameters, basal marginal line not crenate by punctures. Elytral intervals slightly convex, impunctate or with very minute scattered punctures *A. (P.) kathmandui*
- Upper side of the body with minute to short setae. The punctures of the pronotum regularly spaced, separated by their diameters or less, basal marginal line crenate by fine punctures. Elytral intervals flat, distinctly punctate 2
- 2 Upper side of the body with minute setae. Elytral intervals finely punctate along striae. First segment of posterior tarsus equal in length to the next two segments combined . . . *A. (P.) wichei*
- Upper side of the body with short but distinct setae. Elytral intervals with two rows of punctures at middle. First segment of posterior tarsus subequal to the next three segments combined *A. (P.) biseriatus*.

3.1.12. *Aphodius (Trichonotulus) scrofa* (Fabricius, 1787)

1787 *Scarabaenus scrofa* Fabricius, Mant. Ins., I: 11.

1848 *Aphodius scrofa*, – Erichson, Naturg. Ins. Deutschl., Col., 3: 857.

1913 *Aphodius (Trichonotulus) scrofa*, – A. Schmidt, Arch. Naturg., 79A (11): 154, et Auct.

Material: Pakistan, Hazara, S Naran 2600 m, 1. VI. 1983, 6 ex. (MHNG), leg. BESUCHET & LÖBL.

Remarks: Well known widespread species, occurs in Europe and in Central Asia, recorded from Afghanistan and Mongolia.

3.1.13. *Aphodius (Trichonotulus) vultuosus* Balthasar, 1971 (fig. 11)

1971 *Aphodius (Trichaphodius) vultuosus* Balthasar. Beitr. Ent., 21: 58–59.

1986 *Aphodius (Trichaphodius) vultuosus*, – Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 31.

Material: Holotype female – Nepal, Rapti Valley, 200 m (NMP). – Pakistan, Hazara, Kaghan, 2150 m, 2. VI. 1983, 1 ex. (MHNG), leg. BESUCHET & LÖBL.

Complementary description: Length 4.8–5.0 mm. Body moderately convex, alutaceous, colour yellowish brown, scutellum black, posterior of head and disc of pronotum somewhat darkened; upper side with yellow, slightly erect setae.

Frontal suture without tubercles, clypeal edge setaceous. Pronotum without basal marginal line, surface punctures moderately large, separated by their diameters. Striae wide, with two impressions, intervals nearly as wide as striae, convex and distinctly punctate along striae, humeri without trace of denticles. Middle and hind tibiae moderately long, transverse ridges well developed, tarsi somewhat shorter than the tibiae; first posterior tarsal segment nearly equal in length to the upper tibial spur and nearly equal to the next three segments combined. Epipharyngeal epitorma lightly sclerotized; the setae of the chaetoparia short and thin, the bristles of the chaetopodium longer and thicker; the remaining setae of the pedium the same length as the bristles of chaetopodium; acroparia with long thin setae.

Remarks: The species is known at present from the two females found in Central Nepal and in Pakistan and belonging certainly to the *Trichonotulus*-group.

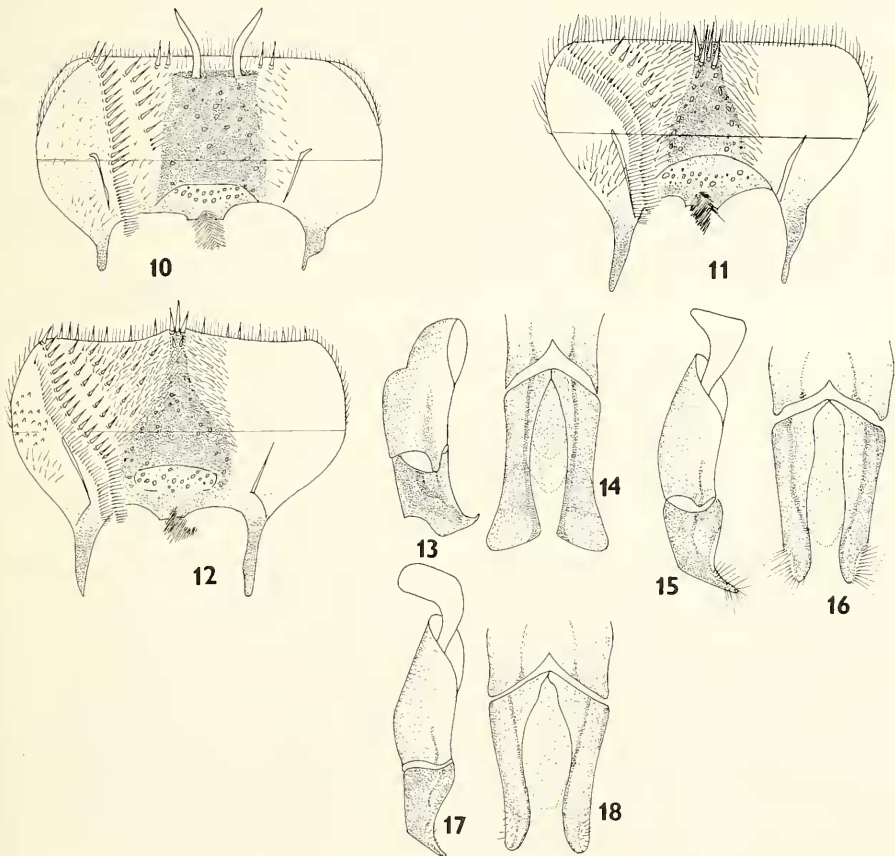


Fig. 10. *Aphodius (Paradidactylia) biseriatus* A. Schm., epipharynx.
 Fig. 11. *Aphodius (Trichonotulus) vultuosus* Balth., epipharynx.
 Figs. 12–14. *Aphodius (Phalacrothbus) himalayanus* W. Kosh. — 12. epipharynx; — 13–14. aedeagus (lateral and dorsal view).
 Figs. 15–16. *Aphodius (Trichaphodius) hindustanicus* Balth., aedeagus (lateral and dorsal view).
 Figs. 17–18. *Aphodius (Trichaphodius) humilis* Roth., aedeagus (lateral and dorsal view).

Key to the W. Himalayan species of the subgenus *Trichonotulus* Bed.

- 1 Body yellowish brown. Elytral striae wide, intervals convex, finely punctate *A. (T.) vultuosus*
 — Body black, sometimes elytra reddish. Elytral striae narrow, intervals flat, granulate *A. (T.) scrofa*.

3.1.14. *Aphodius (Phalacrothous) himalayanus* W. Koshantschikov, 1916
 (figs. 12–14)

1916 *Aphodius (Orodalus) himalayanus* W. Koshantschikov, Revue Russe Ent., 16: 201, et Auct.

Material: India, Kashmir, Pahalgam, 2400 m, 14.–20. V. 1976, 10 ex. (SMNS), leg. MARTENS & SCHAWALLER. — Pakistan, Hazara, Shogran, 2400 m, 3. VI. 1983, 2 ex. (MHNG), leg. BESUCHET & LÖBL.

Complementary description: Body black, elytra usually lighter, slightly alutaceous; striae deeply impressed, striae punctures fine, not crenating or inconspicuously crenating inner margins of the intervals; intervals convex, minutely punctate. First segment of posterior tarsus nearly one third longer than the upper tibial spur and subequal in length to the next three segments combined. Apical spur of fore tibia in male thicker than in female, bent downward. Wings well developed. Epipharyngeal epitorma well sclerotized, the bristles of the chaetoparia moderately thick and moderately long; the numerous bristles of the chaetopodium the same size as those of the chaetoparia; the setae of the acroparia mixed thin and thicker, the remaining setae of paria and pedium thin, moderately long.

Remarks: The species seems to be endemic for the Western Himalayas.

3.1.15. *Aphodius (Trichaphodius) hindustanicus* Balthasar, 1935 (figs. 15–16)

1935 *Aphodius (Trichaphodius) hindustanicus* Balthasar, Fol.Zool. Hydrobiol., 7: 256.

1965 *Aphodius (Trichaphodius) jirianus* Balthasar, in: Khumbu Himal, Ergebn. Forsch.-Unternehmen Nepal-Himalaya, 2: 110, [n. syn.].

1986 *Aphodius (Trichaphodius) jirianus*, — Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 29–31, fig. 62.

Material: Pakistan, Murree, 2000–2300 m, 3.–6. VIII. 1982, — Hazara, Sharkul NW Bahal, 1600–2100 m, 21. VII. 1982, 14 ex. (SMNS), leg. EBER & HEINZ.

Remarks: Through the examination of over 500 specimens of this species including the type material as well as a large series of specimens of *A. humilis* Roth from Africa and Ceylon I am of the opinion, that *A. hindustanicus* is a separate species closely allied phylogenetically to *A. humilis* Roth. Both species show a very pronounced tendency for the formation of a number of local races. According to the present state of knowledge of their distribution, *A. hindustanicus* seems to replace *A. humilis* in northern territories of India and in the Himalayas. All the Himalayan specimens studied, although very variable, differ from the specimens of *A. humilis* by constant characters of outer morphology given in the key and by the differences in the shape of parameres (figs. 17–18).

Key to the species of *A. (Trichaphodius) humilis*-group

- 1 Head distinctly piliferous, the punctures nearly rugose. Base of pronotum strongly sinuate, lobed at middle; entire surface of pronotum covered with hairs, the punctures as

large as those of the head or somewhat larger, nearly rugose. Body entirely yellow or yellow colour prevailing. Africa, Madagascar, Ceylon, South India *A. (T.) humilis*

- Head nude, the punctures very fine to fine, simple. Base of pronotum faintly sinuate, unlobed at middle; sides of pronotum shortly piliferous, disc nude, the punctures significantly larger than those of the head, simple. Body entirely black or black colour prevailing. Northern India, Himalayas *A. (T.) hindustanicus*.

3.1.16. *Aphodius (Balthasarianus) nainiensis* Petrovitz, 1963 (figs. 19–21)

1963 *Aphodius (Balthasarianus) nainiensis* Petrovitz, Ent. Arb. Mus. Frey, 14: 631.

Material: Paratypes 2 ex. – India, Kumaon Him., Naini Tal (Bhim Tal), 609 m (MHNG).

Complementary description: Body dark castaneous, rather thickset, moderately convex. First segment of posterior tarsus slightly shorter than the upper tibial spur and considerably longer than the next three segments combined. Epipharyngeal epitorma not sclerotized, covered with very short setae; the bristles of chaetoparia short and thin, irregularly distributed, the bristles of acroparia long, mixed thin and thick.

Remarks: Since the original description no additional specimens were found.

3.1.17. *Aphodius (Aganocrossus) urostigma* Harold, 1862

1862 *Aphodius urostigma* Harold, Berl. ent. Z., 6: 170.

1986 *Aphodius (Aganocrossus) urostigma*, – Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 33, figs. 68–69.

Material: Pakistan, Swat, Col de Karakar, 1300 m, 19. V. 1983, 12 ex. (MHNG), leg. BESUCHET & LÖBL.

Remarks: The species is common throughout Indo-Malaya, China, Korea, India and Himalayan region to Afghanistan.

3.1.18. *Aphodius (Aganocrossus) amoenus* Bohemann, 1857

1857 *Aphodius amoenus* Bohemann, Ins. Caffr., II: 354.

1913 *Aphodius (Aganocrossus) amoenus*, – A. Schmidt, Arch. Naturg., 79A (11): 135, et Auct.

1940 *Aphodius (Aganocrossus) khuntianus* Balthasar, Ent. Bl. Biol. Syst. Käfer, 36: 38, [n. syn.].

1986 *Aphodius (Aganocrossus) khuntianus*, – Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 33, figs. 70–72.

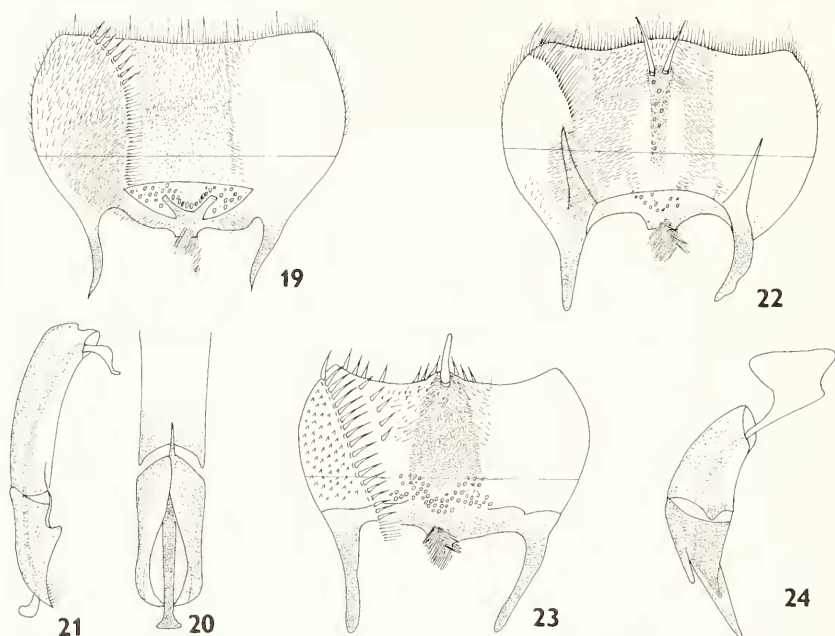
Remarks: The species is common throughout Africa, Madagascar, Ceylon and India and it is characterized by a considerable variability in size, colour and pilosity of the elytra. I am unable to find any constant character distinguishing the various forms of *A. amoenus* from the type-specimens of *khuntianus*. Within the material examined no specimens from the Western Himalayas were found.

3.1.19. *Aphodius (Calaphodius) moestus* Fabricius, 1801

1801 *Aphodius moestus* Fabricius, Syst. Eleuth., I: 78, et Auct.

1986 *Aphodius (Calaphodius) moestus*, – Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 35, fig. 67.

Material: Pakistan, Swat, Col de Karakar., 1300 m, 19. V. 1983, 3 ex. (MHNG), leg. BESUCHET & LÖBL.



- Figs. 19–21. *Aphodius (Balthasarianus) nainiensis* Petr. – 19. epipharynx; – 20–21. aedeagus (dorsal and lateral view).
 Fig. 22. *Aphodius (Emadiellus) rufopustulatus* Wied., epipharynx.
 Figs. 23–24. *Aphodius (Plagiogonus) farai* Balth. – 23. epipharynx; – 24. aedeagus (lateral view).

Remarks: Widespread species, known from East and South Africa, Madagascar, Ceylon, India, Indochina and from the Himalayan region to Afghanistan.

3.1.20. *Aphodius (Emadiellus) rufopustulatus* Wiedemann, 1823 (fig. 22)

1823 *Aphodius rufopustulatus* Wiedemann, Zool. Mag., 21: 27.

1913 *Aphodius (Emadiellus) rufopustulatus*, – A. Schmidt, Arch. Naturg., 79A (11): 138, et Auct.

Material: Pakistan, Rawalpindi, VII. 1974, 1 ex. (ISEZ), leg. SMIELOWSKI.

Complementary description: Epipharyngeal epitorma narrow, well sclerotized; the setae of the chaetoparia thin, dense and very long, the setae of the acroparia somewhat shorter than those of the chaetoparia, dense and thin. The chaetopodium is lacking, the setae of pedium and paria very short, thin and close.

Remarks: The species is little known, rarely collected, it occurs in India and Indochina. In West Pakistan it is here indicated for the first time.

3.1.21. *Aphodius (Plagiogonus) ramamiensis* Stebnicka, 1982

1982 *Aphodius (Plagiogonus) ramamiensis* Stebnicka, Bull. Acad. pol. sci., Sér. Sci. Biol., 29: 336–337, figs. 6–9.

1986 *Aphodius (Plagiogonus) ramamiensis* Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 35, fig. 75.

Material: Pakistan sept., vicinity of Rawalpindi Lake, 3. IV. 1986, in touchwood and river debris, — 24.—26. IV. 1984, sifted in forest, — Hazara, Kaghan valley, Malkandi, 1450 m, VII. 1985, under stones, 6 ex. (MHNG, SMNS), leg. VIT.

Remarks: The species is known so far from the Eastern Himalayas (Darjeeling) and Nepal. In the Western Himalayas it is here indicated for the first time.

3.1.22. *Aphodius (Plagiogonus) farai* Balthasar, 1955 (figs. 23—24)

1955 *Aphodius (Plagiogonus) farai* Balthasar, Acta Ent. Mus. nat. Pragae, 30: 420.

Material: Pakistan, Swat, Kalam, 2100 m, 12. V. 1983, — S Utrot, 2500—2600 m, 14. V. 1983, — valley Ushu, 2300 m, 15. V. 1983, — Dir Lawarai Pass, 2700 m, 21. V. 1983, 13 ex. (MHNG, SMNS), leg. BESUCHET & LÖBL. — Swat, Cabral, 2300 m, 8. VI. 1978, 1 ex. (MHNG), leg. WITTMER.

Complementary description: Body reddish brown, blackish brown or black, apical part of elytra reddish. Anterior edge of clypeus with small denticles on each side of median emargination, genae rounded, setaceous. Base of pronotum without marginal line, surface doubly, densely punctate. Elytral suture triangularly emarginate near apex, humeri finely dentate. First segment of posterior tarsus equal in length to the upper tibial spur and subequal to the next three segments combined. Epipharynx: The bristles of the chaetoparia long and thick, gradually decreasing in size toward crepis; 6—7 bristles of the chaetopodium shorter, the same thickness as those of the chaetoparia; the remaining setae of the pedium long, thin and scarce.

Remarks: The species was originally described from Afghanistan and I have seen specimens from Iran (Guilan, 1800 m). It is here indicated from the Western Himalayas for the first time.

Key to the W. Himalayan species of the subgenus *Plagiogonus* Muls.

- 1 Anterior edge of clypeus with distinct denticles and small protrusions on each side of median emargination. Base of pronotum finely margined. First segment of posterior tarsus nearly as long as the remaining segments combined *A. (P.) ramamiensis*
- Anterior edge of clypeus with small denticles on each side of median emargination, without additional protrusions. Base of pronotum without marginal line. First segment of posterior tarsus equal in length to the next three segments combined *A. (P.) farai*.

3.1.23. *Aphodius (Agolius) baroldi* D. Koshantschikov, 1894 (figs. 25—27)

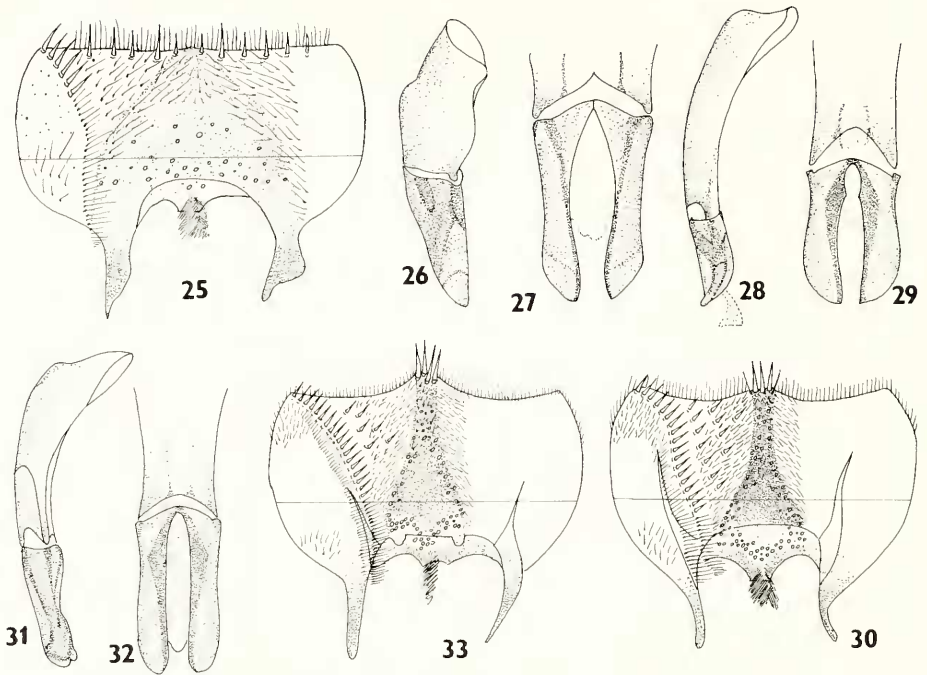
1894 *Aphodius (Agolius) baroldi* D. Koshantschikov, Horae Soc. ent. Ross., 28: 98, et Auct.

1912 *Aphodius (Agolius) baroldi* var. *orinus* W. Koshantschikov, Revue Ent. Russe, 12: 516.

Material: Central Asia — Turkestan, Sussamyr Mts, 2 ex. (MHNG), — Semirečye, Ala-tau, 2 ex. (ISEZ).

Complementary description: Epipharyngeal epitorma lightly sclerotized; the scarce bristles of the chaetoparia long and thick, the bristles of the chaetopodium are lacking; the setae of the pedium long and thin, those of the acroparia long, mixed thick and thin.

Remarks: *A. baroldi* has been originally described from Central Asia (Ketmen Mts) by D. KOSHANTSCHIKOV. I have not seen the form *A. baroldi* var. *orinus* described later from Kashmir by W. KOSHANTSCHIKOV on the base of a single male specimen. The *Agolius*-species are usually restricted to particular mountain ranges and as I suspect the var. *orinus* may be a subspecies of *A. baroldi* or a separate species living exclusively in the Western Himalayas.



- Figs. 25–27. *Aphodius (Agolius) baroldi* D. Kosh. – 25. epipharynx; – 26–27. aedeagus (lateral and dorsal view).
 Figs. 28–30. *Aphodius (Cinacanthus) gregarius* Har. – 28–29. aedeagus (lateral and dorsal view); – 30. epipharynx.
 Figs. 31–33. *Aphodius (Cinacanthus) insperatus* Petr. – 31–32. aedeagus (lateral and dorsal view); – 33. epipharynx.

3.1.24. *Aphodius (Cinacanthus) gregarius* Harold, 1871 (figs. 28–30)

- 1871 *Aphodius gregarius* Harold, Col. Hefte, 7: 112.
 1892 *Aphodius (Melinopterus) gregarius*, – Reitter, Verh. naturw. Ver. Brünn, 30: 237.
 1913 *Aphodius (Cinacanthus) gregarius*, – A. Schmidt, Arch. Naturg., 79A (11): 121.
 1964 *Aphodius (Melinopterus) gregarius*, – Balthasar, Monogr., 3: 271–272.
 1968 *Aphodius (Cinacanthus) rudii* Endrödi, Reichenbachia, 11 (8): 71–73, figs. 1–4.
 1984 *Aphodius (Bodilus) gregarius*, – Nikolajev and Puntsagdulam, in: Nas. Mong., 9: 170–171.

Material: Pakistan, Swat, Col de Karakar, 1300 m, 19. V. 1983, 3 ex. (MHNG, SMNS), leg. BESUCHET & LÖBL. – Rawalpindi Lake, 3. IV. 1986, ex-river debris, 1 ex. (ISEZ), leg. Vit.

Complementary description: Length 5.0–9.0 mm. Male: Sides of clypeus broadly rounded toward right-angled, protruding genae; pronotum at anterior margin as wide as at base; surface of elytra from base to apex densely setaceous; apical tooth of fore tibia long with a bush of close yellow setae at inner side, terminal spur short and acute, located opposite to the first lateral tooth; middle and hind tibiae strongly widened toward apex, first segment of posterior tarsus shorter than the upper tibial spur and subequal in length to the next three segments combined. Female: Sides of clypeus slightly rounded or straight toward right-angled, faintly

protruding genae; pronotum at anterior margin narrower than at base; surface of elytra from base to apex with less close and shorter setae, sometimes central-basal area of elytra nude; apical tooth of fore tibia short without bush of setae at inner side, terminal spur located opposite to median lateral tooth; middle and hind tibiae slightly widened toward apex, first segment of posterior tarsus shorter than the upper tibial spur and subequal in length to the next two segments combined. Epipharynx: The bristles of the chaetoparia rather short and thin; 13–14 bristles of the chaetopodium the same length as those of the chaetoparia, somewhat thicker, mixed with close, short and thin setae of the pedium.

Remarks: Widespread species, occurs from the European part of USSR throughout Central Asia to Mongolia. As may be concluded from the references cited above, the placement of this species in the existing subgeneric system is controversial. *A. gregarius* is characterized by a considerable individual variability respecting the size, the body shape, colour, punctuation, structure of elytra and proportions of posterior tarsal segments. It belongs, together with *A. insperatus* Petr. discussed below, to the separate group of species that is in many morphological respects allied to *Bodilus* and *Melinopterus*, but its origin is nevertheless doubtful. For the moment, I confine myself to use provisionally the subgeneric name *Cinacanthus* for the species discussed herein.

3.1.25. *Aphodius* (*Cinacanthus*) *insperatus* Petrovitz, 1967 (figs. 31–33)

1967 *Aphodius* (*Cinacanthus*) *insperatus* Petrovitz, Ann. Naturhist. Mus. Wien, 70: 480–481.

Material: Paratypes, 2 ex. – West Pakistan, SW Quetta, 900 m (MHNG).

Complementary description: Length 6.5–7.0 mm. Body parallel-sided, brownish yellow, disc of pronotum with darkened spot. Elytra finely and shortly setaceous. First posterior tarsal segment shorter than the upper tibial spur and shorter than the next three segments combined. Male: The inner margin of anterior tibia sinuate, apical tooth long with a bush of close yellow setae, terminal spur short, acute, located opposite to the first lateral tooth; upper side of the body less distinctly punctate than in female. Female: The inner margin of anterior tibia straight, apical tooth short without bush of setae, terminal spur located opposite to median lateral tooth; upper side of the body distinctly punctate. Epipharynx: The bristles of the chaetoparia short and thin; the numerous bristles of the chaetopodium the same size as those of the chaetoparia, the remaining setae of the pedium short and thin.

Remarks: Although the type-locality of *A. insperatus* is outside of the discussed area, the species may be found in the Northern Territory together with *A. gregarius* Har. In order to correct identification a complementary description of this species is here included. The structures of male genitalia and epipharynx with similar characters of external morphology (e. g. the presence of a bush of setae at inner side of apical tooth of fore tibia in male) indicate a close relationship between *A. gregarius* and *A. insperatus*. The distinguishing characters are proposed in the key.

Key to the W. Pakistanian species of the subgenus *Cinacanthus* A. Schm.

- 1 Elytral striae narrow, strial punctures not crenating inner margins of the intervals, surface of elytra with fine, rather scarce setae *A. (C.) insperatus*
 – Elytral striae widened, strial punctures crenating inner margins of the intervals, surface of elytra with distinct, dense setae *A. (C.) gregarius*.

3.1.26. *Aphodius (Bodilus) liesenfeldti* Petrovitz, 1958 (figs. 34–35)

1958 *Aphodius (Loboparius) liesenfeldti* Petrovitz, Ent. Arb. Mus. Frey, 9: 132.

1961 *Aphodius (Bodilus) pakistanus* Balthasar, Acta Ent. Mus. nat. Pragae, 34: 369.

1976 *Aphodius (Bodilus) liesenfeldti* Petrovitz, Ent. Bl. Biol. Syst. Käfer, 72: 9.

Material: Holotype of *liesenfeldti* – Kumaon Himalaya, Dehra Dun (MHNG). – Holotype of *pakistanus* – West Pakistan, vicinity of Rawalpindi (NMP). – India, Uttar Pradesh, Naini Tal, 400 m, IX. 1978, 1 ex. (ISEZ), leg. SMETACEK.

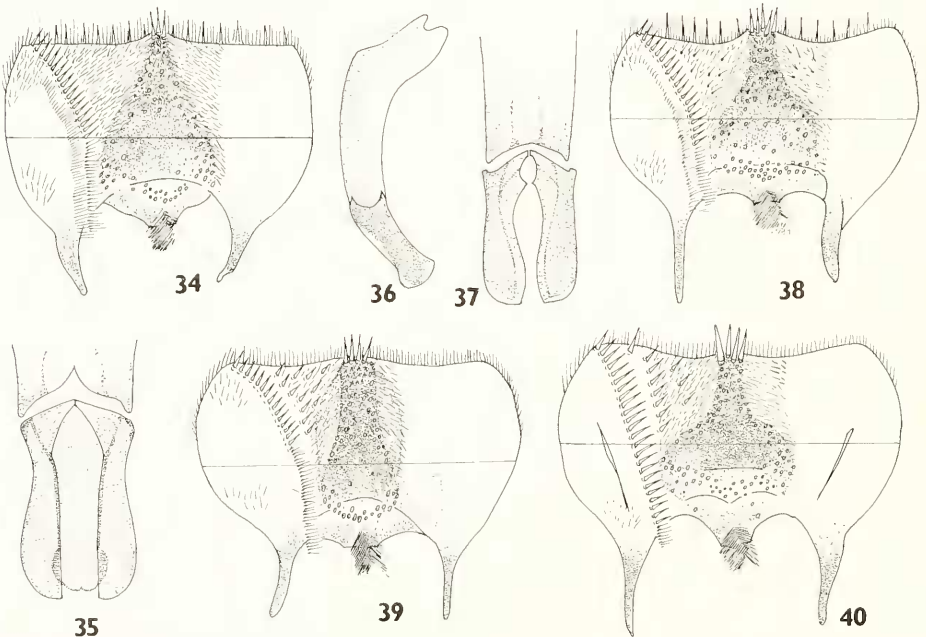
Complementary description: Sides of clypeus undulate toward genae, frontal suture tuberculate. Base of pronotum margined. Elytra parallel-sided, striae deep, the striae 1–5 not united at apex; intervals moderately convex on the disc, strongly convex and finely pubescent at apex. First segment of posterior tarsus a trifle shorter than the upper tibial spur and equal in length to the next two segments combined. Epipharynx: The bristles of the chaetoparia very thin and short, the bristles of the chaetopodium are lacking; the setae of the acroparia longest, mixed thin and somewhat thicker, the setae of the pedium short and thin.

Remarks: The species can be easily recognized by the overall appearance.

3.1.27. *Aphodius (Bodilus) furvus* A. Schmidt, 1916 (figs. 36–38)

1916 *Aphodius (Bodilus) furvus* A. Schmidt, Arch. Naturg., 82A (1): 106, et Auct.

1960 *Aphodius (Pseudacrossus) rawalpindianus* Balthasar, Opusc. Zool., München, 44: 1, [n. syn.].



Figs. 34–35. *Aphodius (Bodilus) liesenfeldti* Petr. – 34. epipharynx; – 35. aedeagus (dorsal view).

Figs. 36–38. *Aphodius (Bodilus) furvus* A. Schm. – 36–37. aedeagus (lateral and dorsal view); – 38. epipharynx.

Fig. 39. *Aphodius (Bodilus) veselyi* Tes., epipharynx.

Fig. 40. *Aphodius (Esymus) indulgens* Balth., epipharynx.

Material: Holotype and 5 paratypes of *rawalpindianus* – West Pakistan, vicinity of Rawalpindi, Sohan River, Dhok Pathan (ZSM, NMP). – India, Kumaon Himalaya, Dehra Dun, 1940–45, 1 ex. (MHNG), leg. LIESENFELDT.

Complementary description: Body castaneous, elongate. Head without tubercles, medially convex. Base of pronotum margined. Elytra nude, striae deep, intervals more convex at apex. Apical setae of middle and hind tibiae short, equal in length; first posterior tarsal segment slightly shorter than the upper tibial spur and subequal to the next two segments combined. Epipharynx: The bristles of the chaetoparia short and thin; the setae of the pedium short, mixed thin and somewhat thicker, the setae of the acroparia longest.

Remarks: *A. furvus* has been originally described from the southern part of West Pakistan and correctly included to the *Bodilus*-group. I do not find any grounds for the placement of this species in the subgenus *Pseudacrossus*.

3.1.28. *Aphodius (Bodilus) veselyi* Tesař, 1969 (fig. 39)

1969 *Aphodius (Agrilinus) veselyi* Tesař, Acta Mus. Silesiae, Ser. A, 18: 61–62.

Material: Holotype female – West Pakistan, Rawalpindi, 700–1500 m (MHK).

Complementary description: Length 6.5 mm. Colour blackish brown, sides of pronotum reddish; apex of elytra minutely setaceous. Anterior edge of clypeus right-angled and reflexed each side of moderate median emargination, sides slightly arcuate in front and weakly emarginate before rounded, not protruding genae; frontal suture subcarinate with three small transverse tubercles, clypeus at middle with short transverse ridge; surface of head rather coarsely, densely punctate. Elytra parallel-sided, slightly alutaceous, shagreened at apex, stria punctures fine, weakly crenating inner margins of the moderately convex, finely punctate intervals. Apical setae of middle and hind tibiae equal in length, the surface of tibiae covered with long yellow setae; terminal spur of anterior tibia located opposite the base of first lateral tooth; first segment of posterior tarsus one-fourth shorter than the upper tibial spur and subequal in length to the next two segments combined. Epipharynx: Epitorma well sclerotized; the bristles of the chaetoparia moderately long and moderately thick; the numerous bristles of the chaetopodium the same size as those of the chaetoparia; the remaining setae of the paria and pedium short and thin.

Remarks: *A. veselyi* seems to be very close to *A. ardescens* A. Schm. described from South-West Pakistan, vicinity of Karachi. It differs in colour, in size and in the proportion of posterior tarsal segments, however, I have not studied the type-specimens of *A. ardescens*.

Key to the W. Himalayan species of the subgenus *Bodilus* Muls.

- 1 Length 7.0–7.5 mm. Frontal suture weakly marked, not tuberculate *A. (B.) furvus*
– Length 5.5–6.5 mm. Frontal suture distinctly marked, tuberculate 2
- 2 Anterior edge of clypeus right-angled each side of median emargination, sides slightly arcuate toward genae, middle of clypeus with short transverse carina *A. (B.) veselyi*
– Anterior edge of clypeus rounded each side of median emargination, sides undulate toward genae, middle of clypeus without transverse carina *A. (B.) liesenfeldti*.

3.1.29. *Aphodius (Nialus) hoabinhensis* Balthasar, 1946

1946 *Aphodius (Nialus) hoabinhensis* Balthasar, Acta Ent. Mus. nat. Pragae, 24: 67.

1961 *Aphodius (Nialus) insularis* Petrovitz, Ent. Arb. Mus. Frey, 12: 106, [n. syn.].

1986 *Aphodius (Nialus) insularis*, – Stebnicka, Stuttgarter Beitr. Naturk., Ser. A, 397: 38.

Material: Holotype of *hoabinhensis* – Tonkin, Hoa Binh (NMP). – A large series of specimens.

Remarks: The species is widely distributed in the Oriental Region, known hitherto from Ceylon, India, Nepal, Vietnam and Thailand. No specimens were found in the Western Himalayas.

3.1.30. *Aphodius (Esymus) indulgens* Balthasar, 1960 (fig. 40)

1960 *Aphodius (Esymus) indulgens* Balthasar, Opusc. Zool. München, 44: 2.

Material: Holotype and 4 paratypes – West Pakistan, 25 km NE Rawalpindi, 600–700 m, – Sohan River, Dhok Pathan, vicinity of Pindi Gheb (ZSM).

Complementary description: Frontal part of body, scutellum and sutural intervals of elytra black, elytra yellowish brown, sides of pronotum reddish black. Epipharyngeal epitorma well sclerotized; the bristles of the chaetoparia moderately long and moderately thick; 12–13 bristles of the chaetopodium shorter than those of the chaetoparia, somewhat thicker; the remaining setae of the pedium short, scarcely distributed.

Remarks: The species is very similar to *A. merdarius* Fabr., but differs in having the elytral striae fine and narrow, elytral intervals flat, shining, not shagreened. The male genitalia are not illustrated here because of the lack of males within the material examined.

3.1.31. *Aphodius (Paremadus) zojilae* (Stebnicka, 1981) (fig. 41)

1981 *Caelius zojilae* Stebnicka, Entom. Basiliensia, 6: 326–327, figs. 10–12.

1986 *Aphodius (Paremadus) zojilae* Stebnicka, Acta zool. cracov., 29 (14): 347, 351.

Remarks: A flightless species, described from Kashmir-Ladakh, Zojila, 3300–3500 m. Since the original description no additional specimens were found.

3.1.32. *Aphodius (Paremadus) mahriensis* (Stebnicka, 1983) (fig. 42)

1983 *Caelius mahriensis* Stebnicka, Revue suisse Zool., 90 (2): 318–320, figs. 1–3.

1986 *Aphodius (Paremadus) mahriensis* Stebnicka, Acta zool. cracov., 29 (14): 348, 351.

Remarks: A flightless species, described from Himachal Pradesh, Mahri, 3000–3200 m. Since the original description no additional specimens were found.

3.1.33. *Aphodius (Paremadus) schawalleri* n. sp. (figs. 43–44)

Holotype: ♀ (SMNS), India, Kashmir, Tangmarg, Pir Panjal, 2600 m, 21.–25. V. 1976, leg. MARTENS & SCHAWALLER.

Paratype: 1 ex ♀ (SMNS), same data as holotype.

Description: Length 3.9–4.0 mm, greatest width 1.7–1.8 mm. Body oval, convex, subopaque, black, legs dark reddish.

Head large, convex at middle, anterior edge of clypeus obtusely rounded and distinctly upturned each side of moderate median emargination, sides nearly straight to somewhat depressed, rounded genae; frontal suture weakly marked by smooth line, clypeal surface alutaceous with scattered coarse punctures that are deeper and closer above the frontal suture.

Pronotum strongly convex, discal area slightly depressed longitudinally, anterior angles rounded, sides very finely margined and slightly arcuate in front, feebly emar-

ginate before obtuse posterior angles; base arcuate, faintly emarginate near posterior angles, basal marginal line depressed, distinctly crenate by large punctures; the pronotal surface with large punctures irregularly spaced on the disc, more concentrated toward the sides where they are separated by less than their diameters.

Scutellum triangular, impunctate.

Elytra oval, convex, minutely setaceous at apex; humeri strongly dentate, humeral tubers vanishing, wings reduced; elytral striae strongly impressed, rather wide with large, distant punctures distinctly crenating inner margins of the intervals, lateral striae wider than those on the disc, nearly as wide as the neighbouring intervals with larger punctures; intervals convex, alutaceous, impunctate, margined at base.

Metasternum convex with fine carina in anterior median area, surface coarsely and densely punctate. Abdominal sterna shagreened, finely punctate.

Middle and hind femora rather narrow with close punctures bearing short yellow setae; lateral teeth of fore tibia small, sharply pointed, apical spur straight and acute; middle and hind tibiae moderately long, transverse ridges well developed, apical setae short, nearly equal in length; tarsi as long as the tibiae; first segment of posterior tarsus one-third longer than the upper tibial spur and equal in length to the next three segments combined.

Male unknown.

Epipharynx: Epitorma well sclerotized; the bristles of the chaetoparia moderately long and moderately thick; the bristles of the chaetopodium shorter and somewhat thicker than those of the chaetoparia, the remaining setae of the pedium short and thin.

Remarks: *A. schawalleri* n. sp. is much more similar to *A. mahriensis*, but posterior angles of pronotum are not so strongly emarginate and protruding, the pronotal punctures are larger and more closely distributed and striae punctures of elytra are larger than those in *A. mahriensis*.

Derivatio nominis: It is a real pleasure to dedicate this species to Dr. WOLFGANG SCHAWALLER (Stuttgart), one of the collectors.

3.1.34. *Aphodius (Paremadus) mudukensis* n. sp. (figs. 45–48)

Holotype: ♂ (MHNG), Pakistan sept., Hazara, Naran, Kaghan valley, Saiful Muduk Lake, 3100 m, 4.–5. VII. 1985, leg. Vít.

Paratype: 1 ex. ♀ (MHNG), same data as holotype.

Description: Length 4.3–4.5 mm, greatest width 1.8–1.9 mm. Body oblong oval, convex, shining, reddish black or black.

Head very large, moderately convex; frontal suture weakly marked by very fine line, clypeal margin very finely reflexed and rounded each side of moderate median emargination, sides slightly arcuate toward depressed laterally, broadly rounded genae; clypeal surface slightly alutaceous, surface of the head with uniformly distributed, fine punctures.

Pronotum convex, slightly depressed near anterior angles; anterior angles obtusely rounded, sides finely margined and arcuate in front, inconspicuously emarginate and crenate before obtuse posterior angles; base arcuate, basal marginal line depressed, distinctly crenate by moderate, close punctures; middle basal area of pronotum with weakly impressed vertical line, discal punctures very fine to fine, scattered over ante-

rior-median area, toward the sides and base the punctures mixed very fine and moderately large, the latter regularly distributed, separated by their diameters.

Scutellum triangular, impunctate.

Elytra egg-shaped, convex, minutely and scarcely setaceous at apex, faintly margined basally; humeri strongly dentate, humeral tubers vanishing, wings reduced; elytral striae fine and narrow, strial punctures fine on the disc, not crenating inner margins of the intervals; three lateral striae deeper with a row of larger, distant punctures; intervals convex or nearly flat on the disc, four lateral intervals more convex than the remaining, surface shining with scattered minute punctures.

Metasternum convex, midline weak, the punctures fine. Abdominal sterna alutaceous with fine punctures bearing short setae.

Legs long, slender; middle and hind femora narrow, finely punctate; lateral teeth of fore tibia small and sharply pointed; middle and hind tibiae slender, transverse

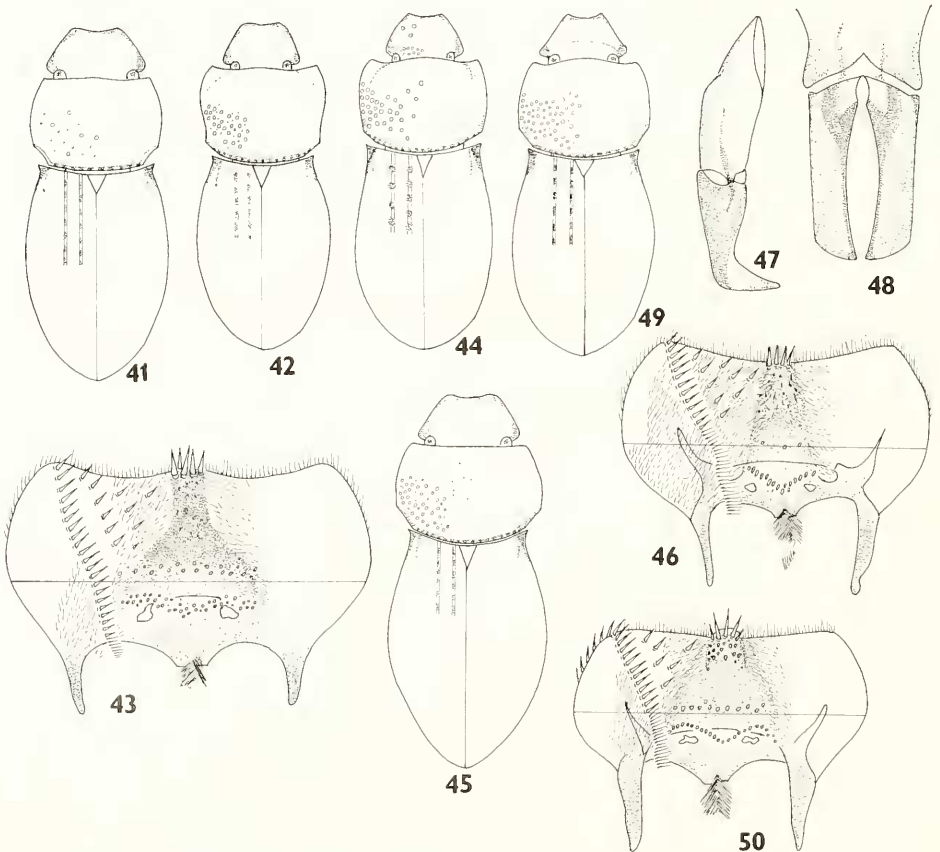


Fig. 41. *Aphodius (Paremadus) zojilae* (Stebn.), habitus.

Fig. 42. *Aphodius (Paremadus) mahriensis* (Stebn.), habitus.

Figs. 43-44. *Aphodius (Paremadus) schawalleri* n. sp. - 43. epipharynx; - 44. habitus.

Figs. 45-48. *Aphodius (Paremadus) mudukensis* n. sp. - 45. habitus; - 46. epipharynx; - 47-48. aedeagus (lateral and dorsal view).

Figs. 49-50. *Aphodius (Paremadus) ivani* n. sp. - 49. habitus; - 50. epipharynx.

ridges well developed, apical setae unequal in length, apical spurs thin, nearly equal in length; tarsi longer than the tibiae; first posterior tarsal segment one-third longer than the upper tibial spur and somewhat shorter than the next three segments combined. Male: Apical spur of fore tibia bent downward and slightly curved inwardly at the tip, elytral intervals more convex than in female. Female: Colour of the body darker than in male; apical spur of fore tibia straight, slightly bent downward; elytral intervals nearly flat on the disc.

Epipharynx: Epitorma lightly sclerotized, the bristles of the chaetoparia rather short and thin; 8–9 bristles of the chaetopodium the same length as those of the chaetoparia, somewhat thicker; the remaining setae of the paria and pedium short, thin and close.

3.1.35. *Aphodius (Paremadus) ivani* n. sp. (figs. 49–50)

Holotype: ♀ (MHNG), Pakistan Hazara, S Naran, 2600 m, 1. VI. 1983, leg. BESUCHET & LÖBL.

Paratype: 1 ex. ♀ (MHNG), same data as holotype.

Description: Length 3.8–4.1 mm, greatest width 1.7–1.8 mm. Body oblong oval, convex, subopaque, black or reddish black, legs reddish black.

Head large, distinctly convex at middle; anterior edge of clypeus nearly right-angled and reflexed each side of moderate median emargination, sides slightly arcuate to depressed laterally, rounded genae, frontal suture distinctly marked on the sides by smooth, shining line; clypeal surface strongly alutaceous with shallow, somewhat wrinkled punctures throughout median convexity to frontal suture, above frontal suture the punctures are moderately coarse, close.

Pronotum convex on the disc, anterior angles rounded, sides very finely margined and slightly arcuate in front, feebly emarginate before right-angled, somewhat protruding posterior angles; base arcuate, feebly emarginate near posterior angles; basal marginal line depressed, distinctly crenate by moderate punctures; surface punctures mixed minute and moderately large, the latter irregularly but rather closely spaced on the disc, more concentrated at base and on the sides where they are separated by their diameters.

Scutellum triangular, impunctate.

Elytra egg-shaped, convex, distinctly margined at base; apical declivity with minute, scarce setae; humeri dentate, humeral tubers vanishing, wings reduced; elytral striae narrow and finely punctate on the disc, lateral striae wider and deeper with larger punctures crenating inner margins of the intervals; intervals moderately convex on the disc, more convex on the sides of elytra; surface alutaceous, impunctate.

Metasternum convex, surface with rugose punctures. Abdominal sterna shagreened, finely punctate.

Middle and hind femora rather narrow with dense punctures bearing yellow setae; lateral teeth of fore tibia small, sharply pointed, apical spur straight and acute; middle and hind tibiae moderately long, transverse ridges well developed, apical setae nearly equal in length, apical spurs thin, nearly equal in length; tarsi as long as the tibiae; first segment of posterior tarsus one-third longer than the upper tibial spur and shorter than the next three segments combined.

Male unknown.

Epipharynx: The bristles of the chaetoparia rather short and thin; 7–8 bristles of the chaetopodium somewhat thicker and shorter than those of the chaetoparia; the remaining setae of the paria and pedium thin and short, scarcely distributed.

Remarks: The flightless Himalayan species constitute a separate group within *Paremadus* Nak. They have been found so far exclusively in the Punjab Himalaya west of the defile of Sutley river, at altitudes of 3000–3500 m above sea level. The egg-shaped elytra and vanishing humeral tubers are accompanied by a reduction of flight wings. The flightless condition explains differences in elytral shape between this group and the fully winged species known from the Central Nepal Himalaya. All species of *Paremadus* found in the Himalayas seem to be restricted to humus within narrow distributional ranges.

Derivatio nominis: The species is named in honour of my friend, Dr. IVAN LÖBL (Genève), member of several expeditions to the Himalayas.

Key to the W. Himalayan species of the subgenus *Paremadus* Nak.

- 1 Base of pronotum near posterior angles distinctly emarginate, posterior angles sharp and protruding; pronotal disc with few moderately coarse, scattered punctures *A. (P.) zojilae*
- Base of pronotum near posterior angles weakly emarginate or contiguously arcuate; posterior angles obtuse, not protruding or slightly protruding; pronotal disc otherwise punctate 2
- 2 Anterior-median area of pronotum arduous, strongly convex 3
- Anterior-median area of pronotum moderately convex 4
- 3 Disc of pronotum shining, the punctures moderate, separated by one to two times their diameters. Elytral striae narrow with fine punctures weakly crenating inner margins of the intervals *A. (P.) mahriensis*
- Disc of pronotum alutaceous, the punctures large, irregularly spaced. Elytral striae wide, the large punctures distinctly crenating inner margins of the intervals . . . *A. (P.) schwalleri* n. sp.
- 4 Head moderate in size, anterior edge of clypeus nearly right-angled each side of median emargination. Disc of pronotum at middle with large scattered punctures. Apex of elytra rounded *A. (P.) ivani* n. sp.
- Head large, anterior edge of clypeus rounded each side of median emargination. Disc of pronotum at middle with fine scattered punctures. Apex of elytra lobed *A. (P.) mudukensis* n. sp.

3.2. *Aegialia*

3.2.1. *Aegialia (Silluvia) petrovitzi* Stebnicka, 1977

- 1977 *Aegialia (Silluvia) petrovitzi* Stebnicka, Acta zool. cracov., 22 (11): 421, 425, fig. 25 (male).
- 1981 *Aegialia (Silluvia) petrovitzi* Stebnicka, Bull. Acad. pol. Sci., Sér. Sci. biol., 28 (8–9): 540–541, fig. 4 (female).

Material: India, Kumaon Him., Himachal Pradesh, Manali, 2000–2300 m, 15. V. 1977, 1 ex. (MHNG), leg. WITTMER & BRANCUCCI.

Remarks: The species is known at present only from the locus typicus.

3.3. *Rhyssemus*3.3.1. *Rhyssemus freudei* Balthasar, 1960¹⁾

1960 *Rhyssemus freudei* Balthasar, Opusc. Zool. München, 44: 5.

1984 *Rhyssemus freudei*, — Pittino, G. it. Ent., 2: 31–32.

Remarks: The species was recorded from W. Pakistan (vicinity of Rawalpindi), from India and East Pakistan.

3.3.2. *Rhyssemus helenae* Pittino, 1983

1983 *Rhyssemus helenae* Pittino, G. it. Ent., 1: 114–116, figs. 34–37.

Remarks: The species was described from W. Pakistan (N Sind), Gund, 2500 m.

4. References

Here only publications mentioned in the text are listed, further literature is cited at the beginning of each species chapter.

DELLACASA, G. (1977): Studi di sistematica sugli *Aphodiinae* (Col., Scarabaeidae) IV. *Aphodius* (s. str.) *elongatulus* Fabr., *Aphodius* (*Pharaphodius*) *robustus* Walk., *cornutus* Wied. e *pereirai* Balth. — *Annali Mus. civ. Stor. nat. Giacomo Doria*, 81: 313–320; Genova.

PITTINO, R. (1983): Psammodiini nuovi o interessanti di Europa, Asia e Africa (Coleoptera, Aphodiinae), (XXII contributo alla conoscenza dei Coleoptera Scarabaeoidea). — *G. it. Ent.*, 1: 92–122; Milano.

— (1984): Taxonomic considerations on types revisions, lectotypes designations and descriptions of new and little known Psammodiini from Palearctic, Oriental and Ethiopian Regions (Coleoptera, Aphodiinae), (XXVI contribution to the knowledge of Coleoptera Scarabaeoidea). — *G. it. Ent.*, 2: 13–97; Milano.

STEBNICKA, Z. (1981): Aphodiinae from the Himalayas, Assam and Sri Lanka (Col., Scarabaeidae). — *Ent. Basiliensia*, 6: 319–327; Basel.

— (1986): Revision of the Aphodiinae of the Nepal-Himalayas (Coleoptera: Scarabaeidae). — *Stuttgarter Beitr. Naturk. (Ser. A)*, 397: 1–51; Stuttgart.

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¹⁾ The species of the tribe Psammodiini including those found in the Western Himalayas have been described and revised by PITTINO (1983, 1984). I have not studied the material of W. Himalayan Psammodiini, thus, the data are taken from the literature cited.